IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A silicon carbide-based ~~heat-resistance~~ heat-resistant porous structural material produced by a process comprising ~~the step of~~:

impregnating a carbonized porous structural body with molten silicon, the structural body ~~having~~ comprising open pores open to a surface thereof~~, which are~~ generated ~~due to~~ by a volume-reduction reaction~~,~~ and ~~at the same time containing~~ porous silicon carbide having ~~a good~~ wettability to molten silicon,

wherein the carbonized porous structural body is formed by a process comprising ~~the steps of~~ applying a slurry by impregnation to a ~~carbon powder-made~~ porous structural body ~~having a bone structure, which is~~ formed from powdered carbon, carbonizing the slurry, and then performing reaction sintering, the slurry ~~containing~~ comprising powdered silicon and a resin ~~used~~ useful as a carbon source.

2. (Cancelled)

3. (Currently Amended) The ~~silicon carbide-based heat-resistance~~ porous structural material according to Claim 1 ~~or 2~~, wherein~~, as~~ the ~~carbon powder-made~~ porous structural body ~~having a bone structure,~~ is one of a carbon product having a honeycomb~~, a~~ or corrugated fiberboard~~, or a cardboard~~ shape ~~is used which is formed by adding a binding agent to the powdered carbon, followed by molding~~.

4. (Currently Amended) A method for manufacturing a silicon carbide-based ~~heat-resistance~~ heat-resistant porous structural material, comprising ~~the steps of~~:

applying a slurry ~~containing~~ comprising powdered silicon and a resin ~~used~~ useful as a carbon source by impregnation to a ~~carbon powder-made~~ porous structural body ~~having a bone structure, which is~~ formed from powdered carbon, then carbonizing the slurry at 900 to 1,300°C in a vacuum or an inert gas atmosphere, then performing reaction sintering at a temperature of 1,300°C or more in a vacuum or an inert gas atmosphere so as to form a carbonized porous structural body ~~having~~ comprising open pores ~~which are~~ generated by a volume-reduction reaction ~~at the same time when~~ and porous silicon carbide having ~~a good~~ wettability to molten silicon ~~is formed~~, and impregnating this carbonized porous structural

body with silicon at a temperature of 1,300 to 1,800°C in a vacuum or an inert gas atmosphere.

5. (Currently Amended) A method for manufacturing a silicon carbide-based ~~heat-resistance~~ heat-resistant porous structural material, comprising ~~the steps of~~:

applying a ~~slurry containing~~ composition comprising a resin ~~used~~ useful as a carbon source by impregnation to a ~~carbon powder made~~ porous structural body ~~having a bone structure, which is~~ formed from powdered carbon, then carbonizing the ~~slurry~~ composition at 900 to 1,300°C in a vacuum or an inert gas atmosphere so as to form a carbonized porous structural body having carbon generated on a surface thereof from the resin and ~~at the same time containing~~ comprising powdered carbon having ~~a good~~ wettability to molten silicon, and

impregnating this carbonized porous structural body with silicon at a temperature of 1,300 to 1,800°C in a vacuum or an inert gas atmosphere.

6. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5~~, wherein~~, as~~ the ~~carbon powder made~~ porous structural body ~~having a bone structure, a carbon product~~ is ~~used which is formed by extrusion of powdered carbon added with a binding agent into~~ a honeycomb ~~shape~~ or ~~by paper making of powdered carbon added with a binding agent into~~ a corrugated fiberboard ~~or a cardboard~~ shape.

7. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5~~, wherein~~, as~~ the resin ~~applied by impregnation to the bone structure of the carbon powder-made porous structural body,~~ is at least one selected from the group consisting of a phenol resin, a furan resin, a polycarboxysilane, an organic metal polymer, and pitch ~~is used~~.

8. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5, wherein, as an additive added to the slurry with which the bone structure of the carbon powder-made porous structural body is impregnated, at least one selected from the group consisting of~~ wherein the slurry further comprises at least one of powdered carbon, powdered graphite, and carbon black ~~is used~~.

9. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5, wherein, as an aggregate or an antioxidant added to the slurry with which the bone structure of the carbon powder-made porous structural body is impregnated, at least one selected from the group consisting of~~ wherein the slurry further comprises at least one of silicon carbide, silicon nitride, titania, zirconia, zircon, alumina, silica, mullite, molybdenum disilicide, boron carbide, boron, and powdered silicon ~~is used~~.

10. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5~~, wherein~~,~~ ~~as~~ the powdered silicon contained in the slurry and/or the silicon used for melt impregnation~~,~~ is a silicon alloy containing at least one element selected from the group consisting of magnesium, aluminum, titanium, chromium, manganese, iron, cobalt, nickel, copper, zinc, zirconium, niobium, molybdenum, and tungsten, or a mixture of the above element and powdered silicon ~~is used~~.

11. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5~~, wherein~~,~~ ~~as~~ the resin ~~of the slurry applied by impregnation to the bone structure of the carbon powder-made porous structural body,~~ is at least one selected from the group consisting of a phenol resin, a furan resin, a polycarboxysilane, an organic metal polymer, and pitch and ~~is used, and as an additive added to~~ the slurry~~,~~ further comprises at least one selected from the group consisting of powdered carbon, powdered graphite, and carbon black ~~is used~~.

12. (Currently Amended) The method ~~for manufacturing a silicon carbide-based heat-resistance porous structural material,~~ according to Claim 4 ~~or 5~~, wherein~~,~~ ~~as an aggregate or an antioxidant added to the slurry applied by impregnation to the bone structure of the carbon powder-made porous structural body,~~ the slurry further comprises at least one selected from the group consisting of silicon carbide, silicon nitride, titania, zirconia, zircon, alumina, silica, mullite, molybdenum disilicide, boron carbide, boron, and powdered silicon ~~is used~~, and ~~as~~ the powdered silicon contained in the slurry and/or the silicon used for melt impregnation~~,~~ is a silicon alloy containing at least one element selected from the group consisting of magnesium, aluminum, titanium, chromium, manganese, iron, cobalt, nickel,

copper, zinc, zirconium, niobium, molybdenum, and tungsten, or a mixture of the above element and powdered silicon ~~is used~~.

13. (New) The method according to Claim 5 wherein the porous structural body is a honeycomb or a corrugated fiberboard shape.

14. (New) The method according to Claim 5, wherein the resin is at least one selected from the group consisting of a phenol resin, a furan resin, a polycarboxysilane, an organic metal polymer, and pitch.

15. (New) The method according to Claim 5 wherein the composition further comprises at least one of powdered carbon, powdered graphite, and carbon black.

16. (New) The method according to Claim 5 wherein the composition further comprises at least one of silicon carbide, silicon nitride, titania, zirconia, zircon, alumina, silica, mullite, molybdenum disilicide, boron carbide, boron, and powdered silicon.

17. (New) The method according to Claim 5, wherein the silicon used for melt impregnation is a silicon alloy containing at least one element selected from the group consisting of magnesium, aluminum, titanium, chromium, manganese, iron, cobalt, nickel, copper, zinc, zirconium, niobium, molybdenum, and tungsten, or a mixture of the above element and powdered silicon.

18. (New) The method according to Claim 5, wherein the resin is at least one selected from the group consisting of a phenol resin, a furan resin, a polycarboxysilane, an organic metal polymer, and pitch the composition further comprises at least one selected from the group consisting of powdered carbon, powdered graphite, and carbon black.

19. (New) The according to Claim 5, wherein the composition further comprises at least one selected from the group consisting of silicon carbide, silicon nitride, titania, zirconia, zircon, alumina, silica, mullite, molybdenum disilicide, boron carbide, boron, and powdered silicon, and the silicon used for melt impregnation is a silicon alloy containing at least one element selected from the group consisting of magnesium, aluminum, titanium,

chromium, manganese, iron, cobalt, nickel, copper, zinc, zirconium, niobium, molybdenum, and tungsten, or a mixture of the above element and powdered silicon.